Attachment, Setup, Service

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General notes

Purpose of the stacker

The TCS textile stacker is an auxiliary unit for use with the printer types indicated in the header.

TCS

The designation TCS means Textile Cutter Stacker, and refers to the device's main area of application, the cutting and stacking of textile label material.

In addition to textile materials, the TCS also cuts and stacks self-adhesive and card material under the following condition:

➠ The TCS is not suitable for alternately processing textile and card or self-adhesive material. Use either textile material, or card/self-adhesive material. The latter material types slightly blunt the cutter – it is then no longer suitable for cutting textile material.

Materials

Please refer to the TCS Product Information for details about label materials which have been approved for processing with the TCS.

❍ Information about permitted label dimensions, maximum stack height etc. can be found in the section Technical specifications on page 27.

System requirements

Preparation of peripheral devices

To be able to operate auxiliary units such as the TCS, the printer requires special equipment. The preparation of these peripheral devices (see Tab. 1:) essentially consists of output stage circuit for the motor of the auxiliary unit and a connecting cable.

Printer	Preparation of peripheral devices
TTX 350/Ocelot	optional
TTK/Texxtile	standard

Tab. 1: The preparation of peripheral devices is available as an option. It comes as standard for the TTK/Texxtile.

❍ Instructions on testing the TTX 350/Ocelot for preparation of the peripheral devices and the subsequent installation of the peripheral board are given in the Service Manual for the TTX 350/Ocelot, topic section "Service", chapter "Upgrading".

Setting up

After assembling the TCS, you must configure the printer to the auxiliary device.

❍ Instructions can be found in section Activating/deactivating the textile stacker on page 5.

Safety notes

CAUTION!

Danger of cuts to hands and fingers!

- *Do not remove safety devices!*
- *Do not bypass safety devices!*
- *Disconnect the printer before installing the TCS!*
- *Do not touch the blades even when the unit is switched off!*

Safety devices

The TCS is fitted with the following safety devices in order to protect the user against physical damage caused by cuts or squeezing/crushing injuries.

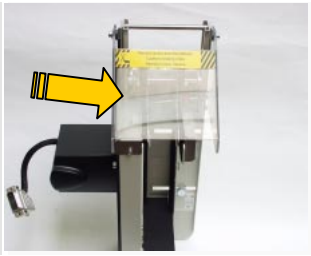
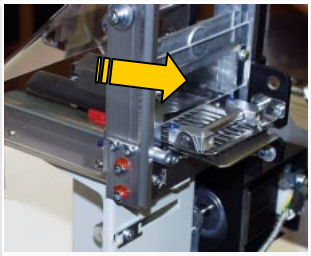
Safety device	Figure	Function	Check
Front plexiglass cover		Prevents access to the cutter. The printer and stacker will stop if the cover is opened during (printing or cutting) operation.	A visual check is sufficient: Is the cover in place? Functional check: The printer and TCS must stop if it is opened during (printing or cutting) operation. Display: ST52
Lid switch			
Rear plexiglass cover		Prevents access to the cutter.	A visual check is sufficient: Is the cover in place?

Fig. 1: Safety devices on the TCS. Make sure that all safety devices are in place and functioning properly!

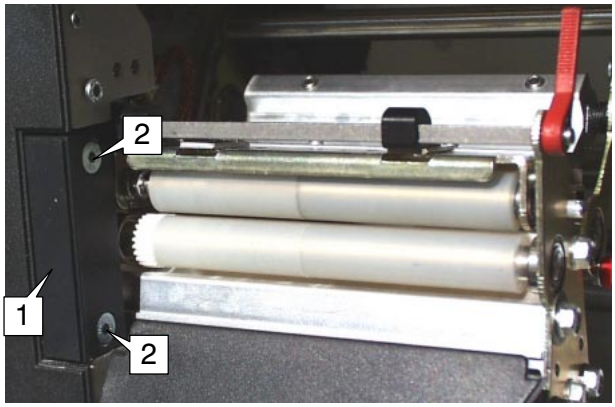
Attaching the stacker

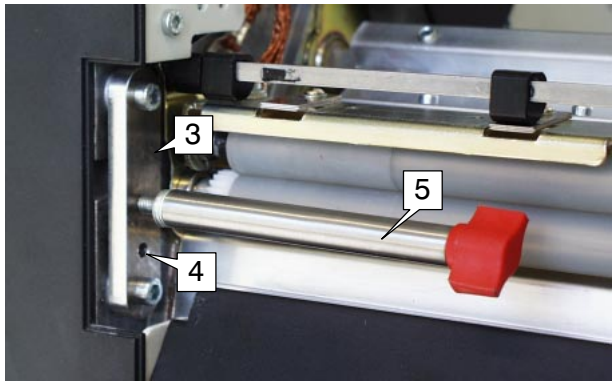
1. Switch the printer off and remove the mains plug.
2. Remove the printer cutter cover (1). To do this, unscrew the two Allan key lock screws (2).
3. Screw on the stacker connector (3). The borehole (4) must point downwards.
4. Twist out the shaft (5) until there is a gap of approx. 2 cm at the bottom.
5. Hang the stacker lock flange (7) into the stacker connector (3). Place the borehole flange (8) over the upper connector (9) bolt head. At the same time, the recess (10) must sit on the thread bolt (11) which holds the shaft (5).
6. Hold the stacker in position and secure it to the shaft by turning the red winged head.
7. Plug the stacker connector plug into the 15-pin socket on the front of the printer. Tighten the two lock screws by hand or with a screwdriver.

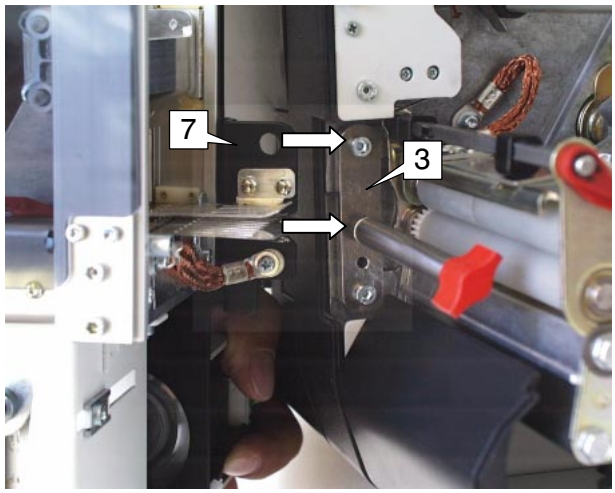
It is essential that you switch the printer off before plugging or unplugging the TCS, otherwise the electronics of the device could be damaged!

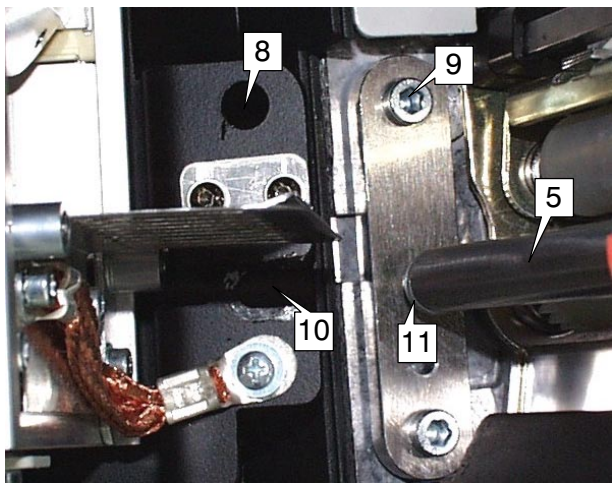
Tools

Allan keys, 3 and 4 mm









Setting up the stacker

Activating/deactivating the textile stacker

After the textile stacker has been connected, it is necessary to set the printer for stacker operation. The textile stacker is activated by setting the appropriate parameter in the printer parameter menu.

➠ Activating an option which is not present can cause the device to malfunction. Danger of injury!

Activate the textile stacker as follows:

	Task	Display
1.	Connect the printer and switch on.	OFF
2.	Press FEED+CUT button several times until:	INFO
3.	Repeatedly press CUT button until:	SYSP
4.	Press ENTER button:	EMUL
5.	Repeatedly press CUT button until:	PEPH
6.	Press ENTER button:	NONE
7.	Repeatedly press CUT button until:	TCS
8.	Press FEED+CUT button:	SYSP
9.	Press FEED+CUT button:	OFF

➠ In order to deactivate the textile stacker, set the parameter PEPH from TSTA back to NONE.

❍ An overview of all the parameters and possible settings can be found in topic section "Info-Printouts and Parameters".

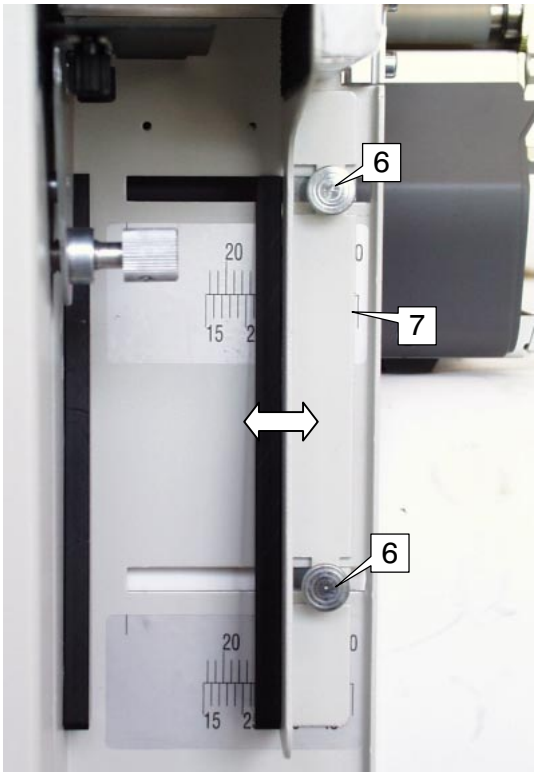
Setting the stacker

Setting the material width

1. Measure the material width if unknown.
2. Unscrew the two thumb screws (6) on the stacker.
3. Push the side part until its right-hand edge corresponds to the measured material width on the scale (7). Width set in the illustration: 52 mm.

⇛ Odd dimensions are given in the lower half of the scale, even dimensions in the upper half.

4. Tighten the thumb screws.

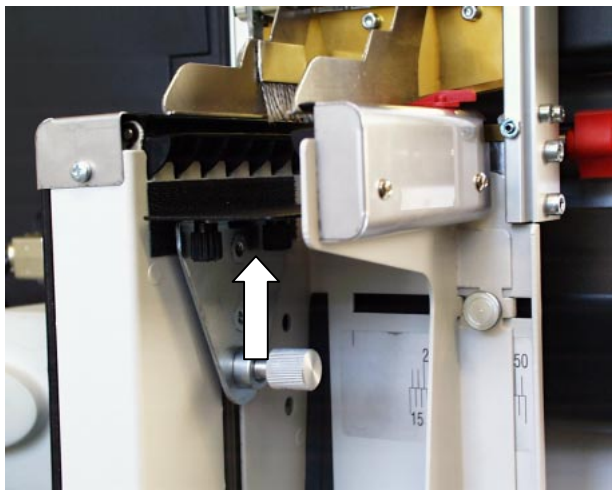


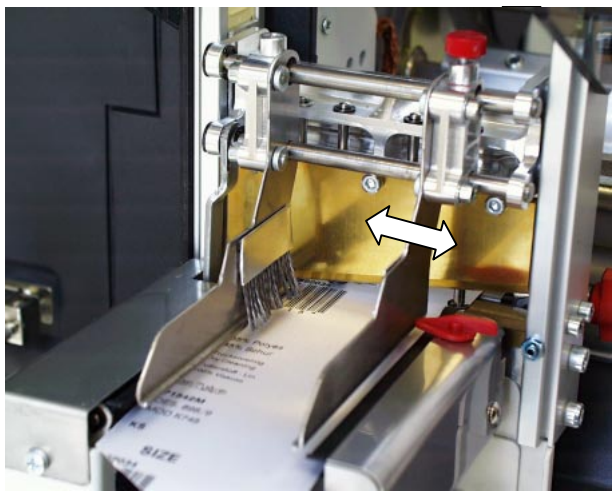
Setting the material support

➔ Push the material support (8) up to the stop plate.

Setting the pusher

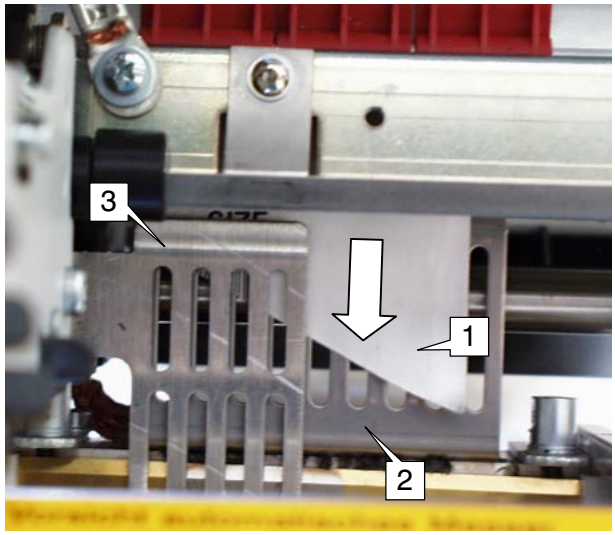
1. Open the plexiglass cover.
2. Unscrew the thumb screw (1).
3. Push the right-hand pusher (2) about 1 cm to the left. Turn the spacing lever until it is at right-angles to the edge (3). Push the pusher to the right again up to the spacing lever.
4. Tighten the thumb screw.
5. Turn the spacing lever back (parallel to the edge).
6. Close the plexiglass cover

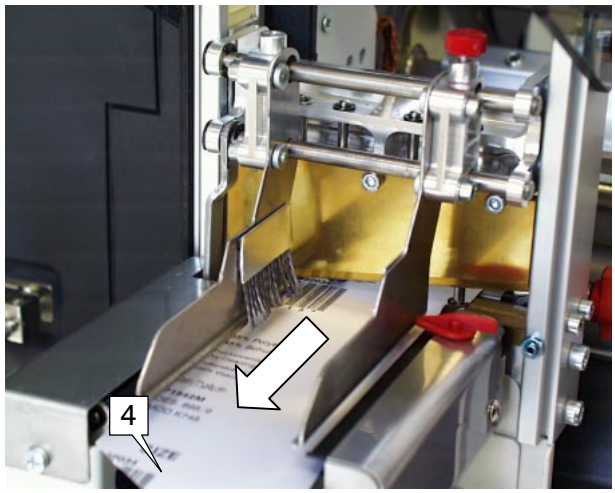




Feeding in the material

1. Push in the material end (1) between the slide plates (2, 3).
2. Feed the material in until it juts about one centimetre out of the stacker (4).





Maintenance

Lubricating

Every now and again add a drop of very fine machine oil (e.g. sewing machine oil) to the following parts to ensure that the TCS continues functioning correctly:

- Cutter carriage guides. Add two drops of oil at the top of each side in the guide profile.

❍ Further information and illustrations can be found in the section Carriage guide on page 19.

Servicing notes

Safety

For your own safety, you must observe the following instructions whenever carrying out servicing work:

CAUTION!

Danger of cuts to hands and fingers!

- *Switch the unit off and unplug it before servicing work!*
- *Touching the blades even while the printer is disconnected can lead to cuts if you are not paying attention!*
- *Take extreme care when carrying out setup work which requires the unit to be operated!*
- *Refit safety devices when the servicing work is completed!*

General notes

Locking varnish Do not under any circumstances unscrew any screws secured with red locking varnish! They secure settings which can only be made in the factory.

Screws secured with blue paint are for different settings. They may be unscrewed for servicing work – afterwards they must be secured again!

View Unless otherwise expressly stated, the views in the description designate: left = motor side of the stacker, front = material feed direction.

Technical modifications

Desig-nation	Feature	Effective from
none	Retaining pins. Top material guide plate not adjustable. Can be upgraded to Type 1 with modification kit (see Fig. 3:).	10/99
Type I	Top material guide plate adjustable by means of a grub screw. Plexiglass plate above the material inlet (see Fig. 3:). Cannot necessarily be upgraded to Type II.	approx. 5/00
Type II	Reinforced bottom material guide plate. Due to modified mounting shaft (smaller diameter in center section). Longer connecting cable with strain relief. Longer side guides +reinforcing struts at upper end between the guides.	approx. 5/01 and serial no. 0285780105-STAC

Fig. 2: The three different variants of the TCS, resulting from design modifications aimed at functional optimisation.

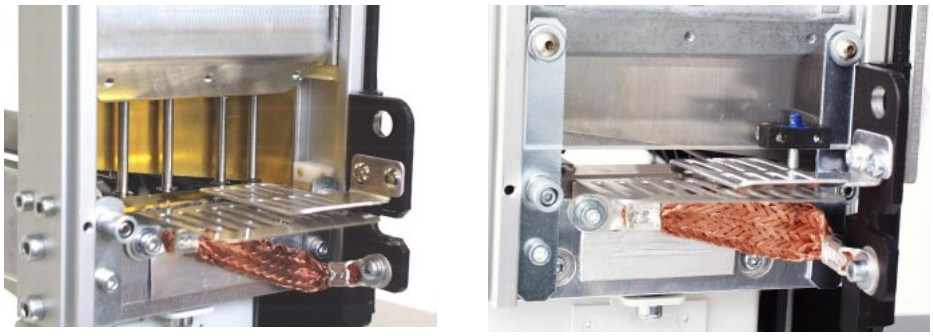


Fig. 3: Left side: older TCS version using retaining pins; right side: version with setting screw (Type I).

Upgrading to type I

Stackers of the older version of the TCS using retaining pins (see Fig. 3: left) can be upgraded to type I by means of a modification kit. Upgrading is very simple and offers some advantages, e.g. easier feeding-in of the material and less noise.

➠ It is strongly recommended that older, type I stackers are upgraded!

❍ For upgrade instructions, please refer to section Retrofitting the type I material guide.

Upgrading to type II Upgrading from type I to type II is only possible under certain conditions.

➠ It is recommended that the following modified parts are fitted:

- connecting cable with strain relief (see Fig. 6:)
- bottom material guide plate (see Fig. 5:)

➠ It is essential that the modified mounting shaft is fitted along with the modified material guide plate!

❍ See "Spare parts list" for more information.

➠ All other parts used on the TCS type II are not backwards compatible and must not be fitted in TCS units of type I!

CAUTION!

Danger of fingers being squeezed!

– *Under no circumstances must you fit the additional cross-strut (part 2 in Fig. 4:) in a TCS of type I! A unit that is modified in this way will not satisfy the safety requirements of the TÜV. Fingers could be squeezed between the cutter carriages and the cross-strut!*

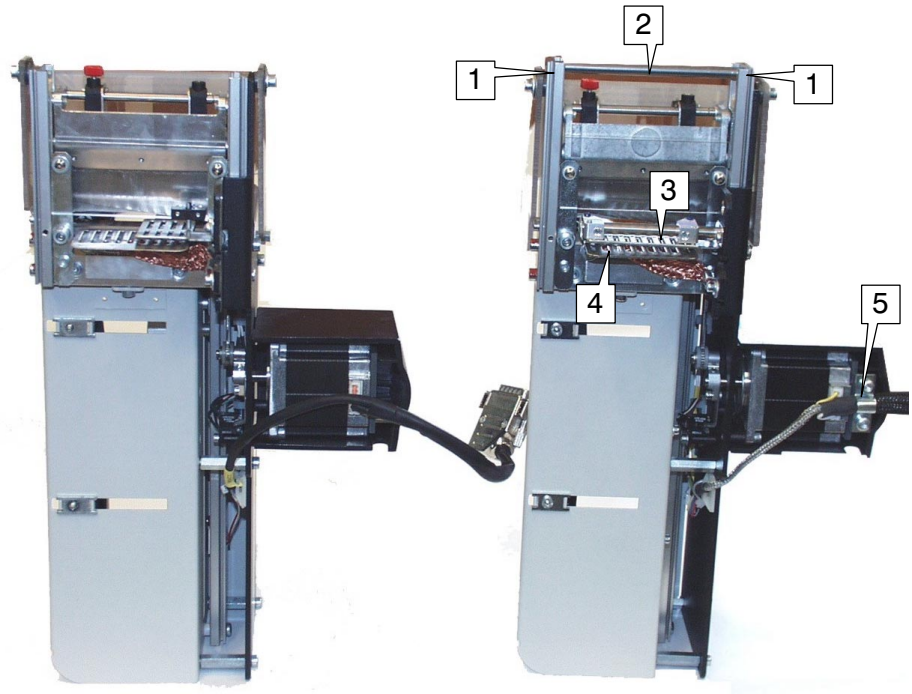


Fig. 4: Constructive modifications of the TCS type II compared with type I: longer side guides (1); additional cross-strut (2); top material guide (3, see Fig. 5:); bottom material guide (4); strain relief (5, see Fig. 6:)

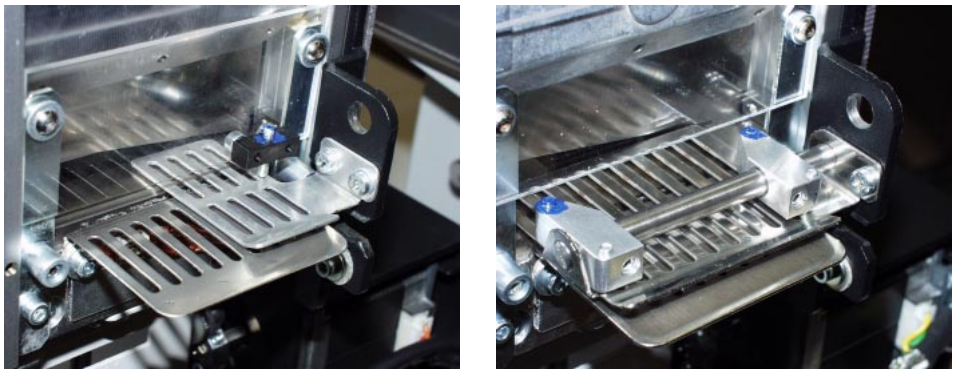


Fig. 5: Material guide plate. Left side: type I; right side: type II.

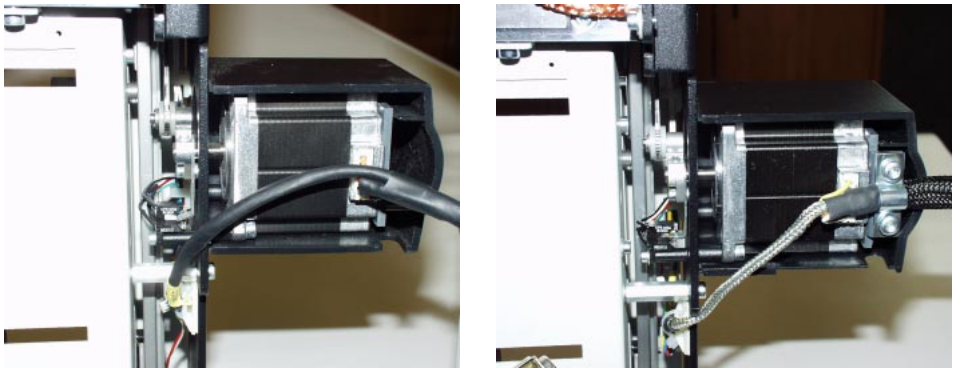


Fig. 6: Cable strain relief. Left side: type I; right side: type II.

Service

Top draw rod bearing

The top bearing of the draw rod (1a) (“clip bearing”) can be exchanged as follows:

Tools

- Allen screw, 1.5/2/2.5 mm
- Screwdriver, small

Disassembling

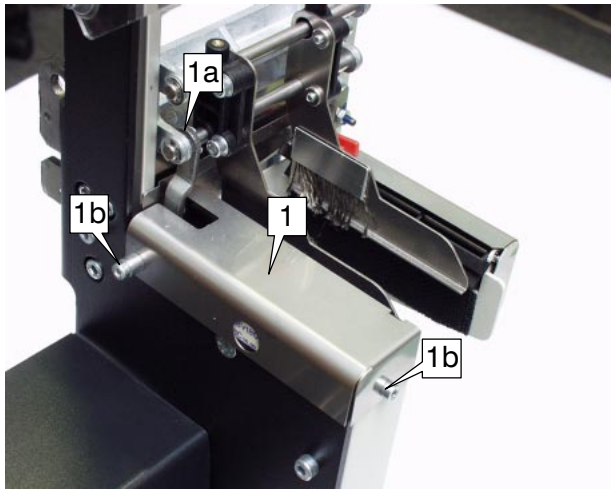
1. Open the lid of the stacker.
2. Remove the left guard (1). Unscrew both screws (1b).
3. Unscrew the grub screw (2) on the left pusher. Unscrew the thumb screw (3) on the right pusher. Push the left pusher a little to the right.
4. Remove the lock washer (4) from the end of the lower pusher rod.
5. Push the pusher rod (5) to the right until it slides out of the draw rod bearing.
6. Swivel the draw rod (6) to the front. Press the clip bearing (7) out of the draw rod (use a screwdriver if necessary).

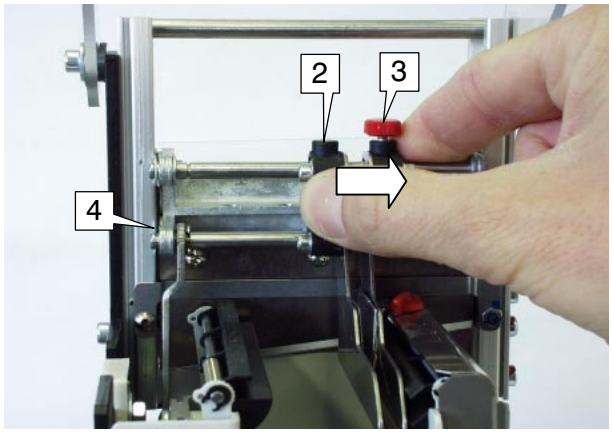
Assembly

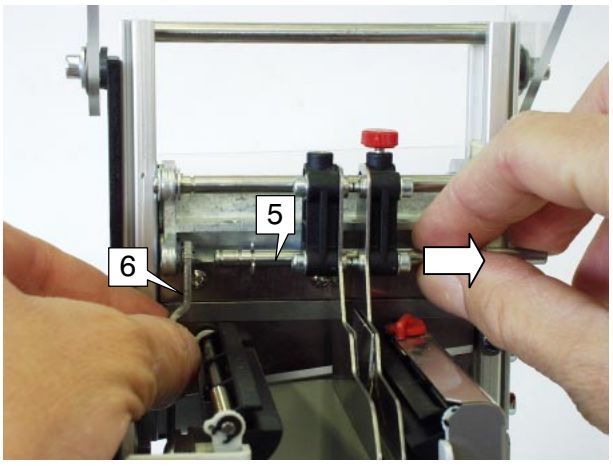
7. Push a new clip bearing into the recess of the draw rod from the left.

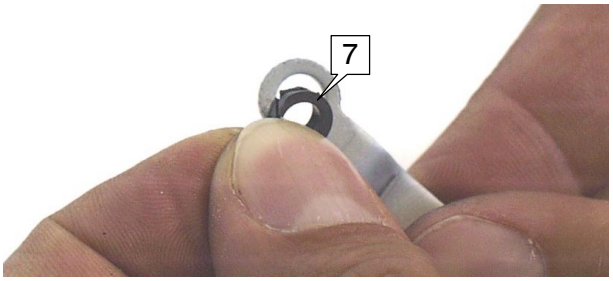
➠ The higher collar of the clip bearing points to the left!

8. Refit the pusher rod again and fix it in position with the lock washer.
9. Slide both pushers back to their previous positions and fix them there.
10. Refit the guard.









Top cutter

The top cutter (1) is attached to the carriage (3) by three screws (2).

➠ To replace the top cutter, you are advised to remove the TCS from the printer.

Tools

- Allen screw, 2/2.5/3 mm
- Screwdriver, small

Disassembling

1. Open the lid of the stacker.
2. Unscrew both fastening screws (4) of the lid until the ends (5) of the screws no longer project into the carriage guide.
3. Remove the draw rod.

❍ Refer to section Top draw rod bearing on page 13.

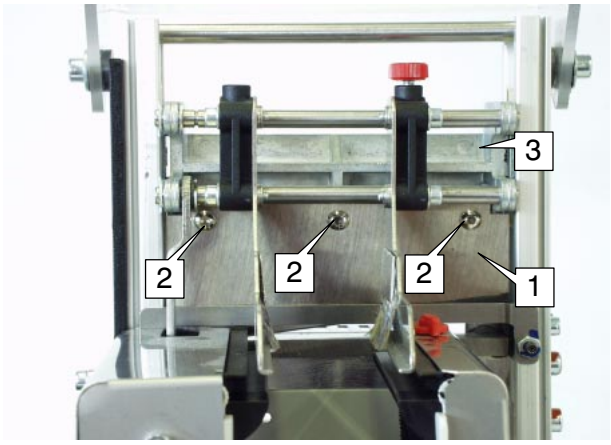
4. Push the carriage (3) up to the stop plate.
5. Unscrew the three fastening screws (2) of the top cutter. Remove the cutter (1) from the side.

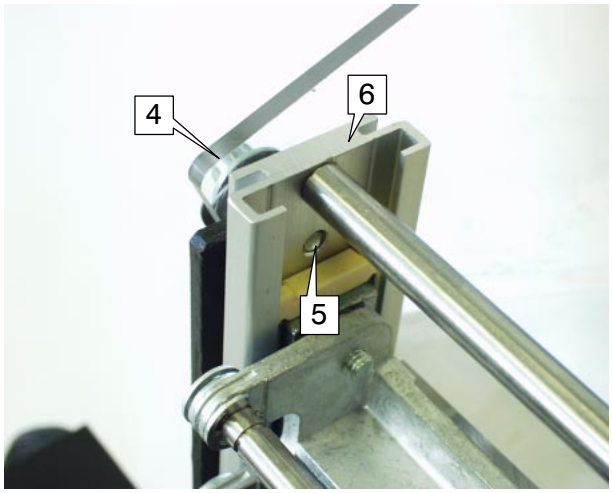
Assembly

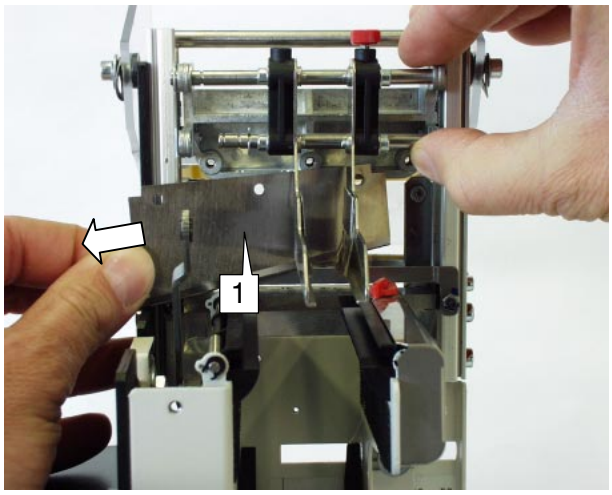
6. Attach the cutter to the carriage and tighten.

➠ Fit the cutter with the narrower side to the right!

7. Push the carriage down while pressing the bottom cutter on its left side behind the top cutter.
8. Hang the draw rod and fix it in position.
9. Tighten the lid fastening screws again.







Bottom cutter

To be replaced, the bottom cutter is removed from the rear of the TCS (1).

➔ Detach the TCS from the printer first!

Tools

- Allen screw, 2/2.5/3 mm
- Phillips screwdriver, medium
- Medium screwdriver

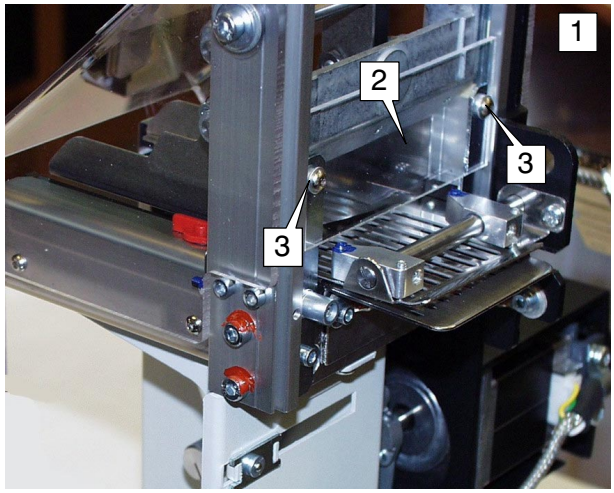
Disassembling

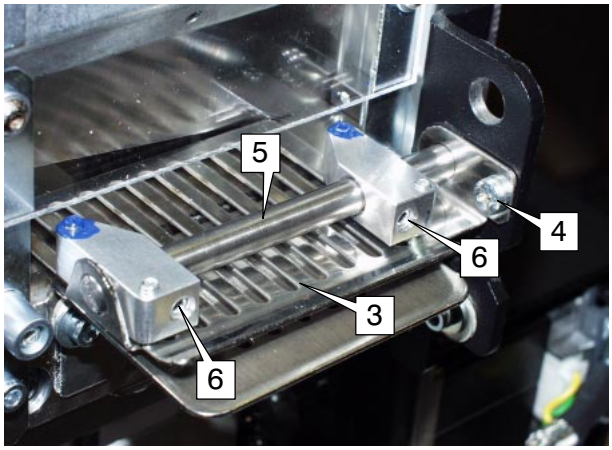
1. Unscrew and remove the two screws (3) of protective screen (2).
2. Dismantle the rod (5) and sliding plate (3). To do this, unscrew the crosshead screw (4), undo the two grub screws (6) and unscrew the rod.
3. Undo the three screws (7) on the side to get easier access to screw (8).
4. Unscrew the earthing strip (9) at the right end.
5. After unscrewing the two screws (8), carefully remove the lateral sheet metal strips (10).

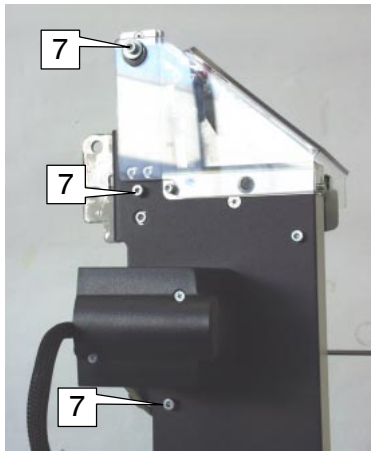
⇛ There are tensioned springs behind the shut metal strips!

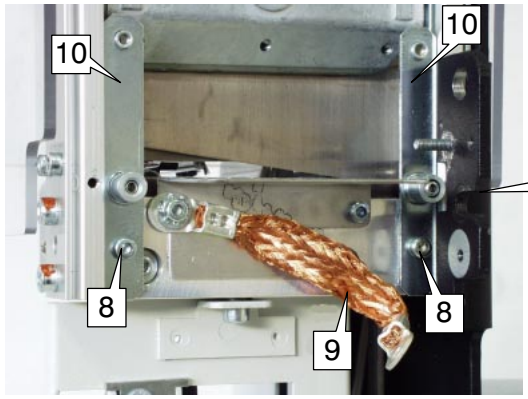
⇛ On the right, push the side housing part (11) a little out to get easier access to screw (8).

❍ Continued on the next page.

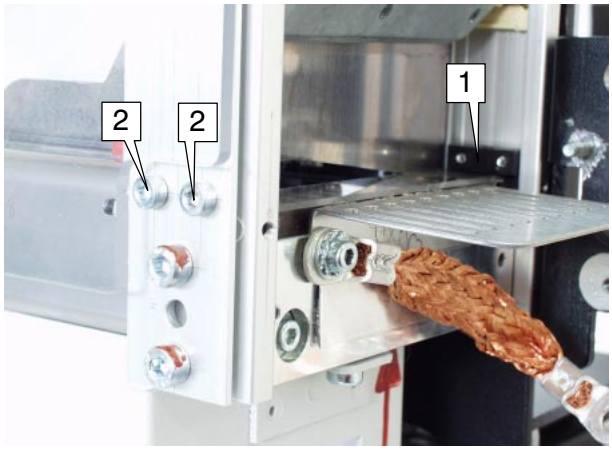








4. On each side, unscrew the two screws (2) and remove the slide blocks (1).
5. Remove the bottom cutter (3) as shown.



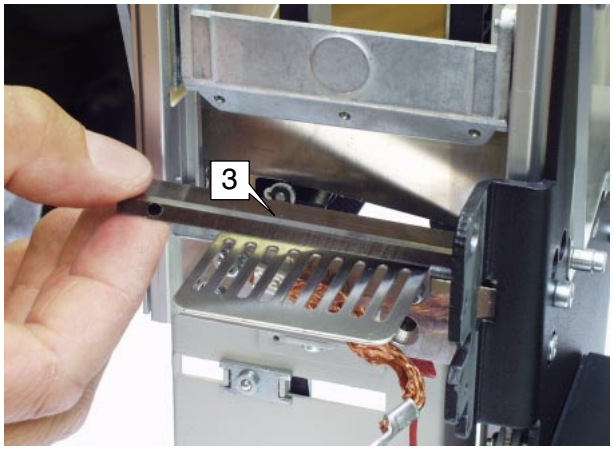
Assembly

7. Refit the bottom cutter.

➠ Grease the lower edge of the bottom cutter before replacing it.

➠ Ensure that the cutter is installed correctly: The boreholes for the contact spring point to the rear; the cutter blade points upwards at the front.

8. Insert the slide blocks (1) on both sides and loosely screw in the securing screws.
9. Push a feeler gauge (4) or a piece of paper or something else which is 0.05 mm thick between the slide block and the bottom cutter.

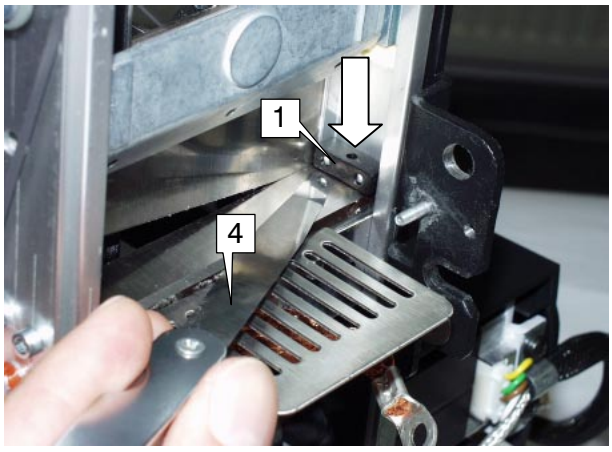


➠ An aperture of 0.05 mm must remain between the slide block and the bottom cutter!

10. Push in the slide block from above, and at the same time tighten up the fastening screws.

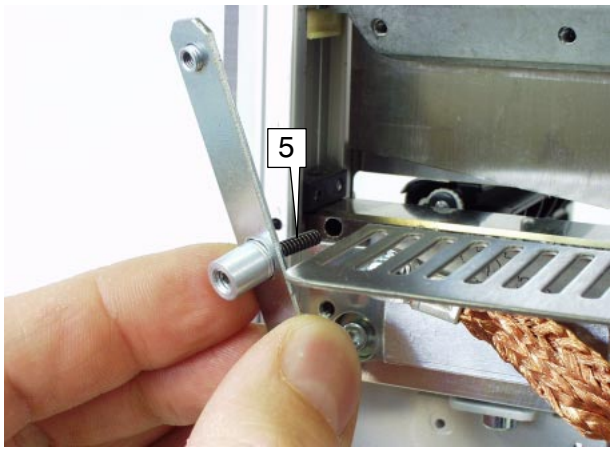
➠ Tighten the screws moderate! – Risk of damaging the thread by overturning!

11. Secure the second slide block in the same manner.



➠ Check: the bottom cutter must be able to move freely underneath the slide blocks.

12. Place the contact springs (5) on the grub screws of the metal strips (see illustration). Screw the metal strips tight.
13. Tighten the housing screws again.
14. Screw the earthing strip and protective screen tight.
15. Attach the rod and sliding plate.



Setting the cutter

Top cutter

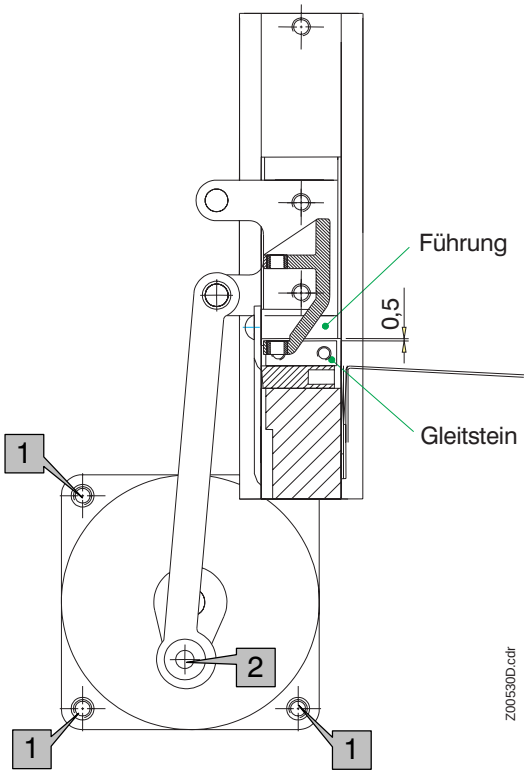
1. Loosen the motor attachment (1).
2. Push a feeler gauge (0.5 mm) between guide and slide block.
3. Turn the crank to the bottom dead centre (2) and tighten the motor attachment screws.
4. Turn the crank to the top dead centre.
5. Set the photoelectric switch flag (3) so that it covers the photoelectric switch (4). To do this loosen the fastening screw (5), adjust the position of the flag and then retighten the screw.

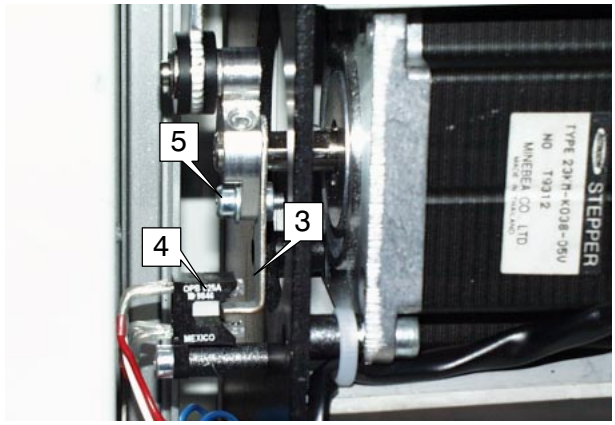
➠ The fastening screw can be accessed from the outside by a borehole in the housing.

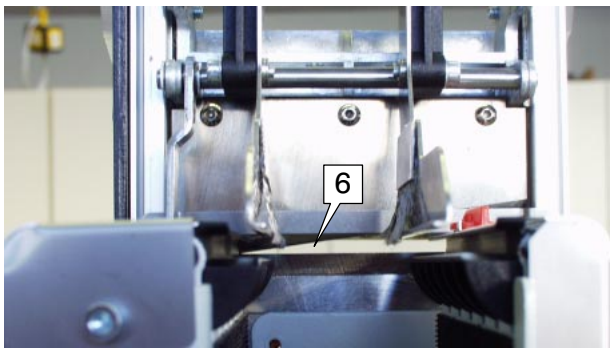
➠ Top photo: motor fitted
Middle photo: motor removed

➠ At top dead centre the top and bottom cutters overlap by less than a centimetre.

➠ The aperture between the two cutters must be sufficient to allow material to pass through (6).

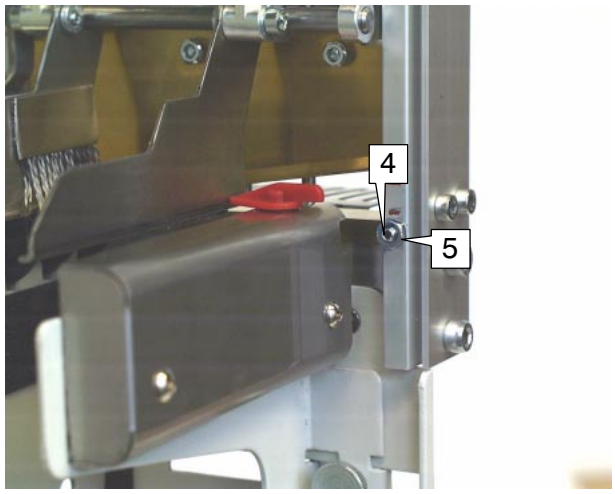






Bottom cutter

1. Connect the stacker to the printer.
2. Loosen bottom cutter setting screw (4). To do this, unscrew the counter nut (5).
3. Operate the printer (stack).
4. Turn the setting screw in slowly while the stacker is working; keep one hand on the OFFLINE button of the printer.
5. Press the OFFLINE button as soon as the stacker no longer cuts the material, but only bends it over.
6. Unscrew the setting screw by 1.5 turns, lock and secure it with paint.



Tools

- Allan keys, sizes 2 and 3
- Socket wrench, size 7

Carriage guide

Endurance tests have shown that it is sensible to replace the carriage guides together with the cutter.

Tools

- Allen key size 1.5
- Phillips screwdriver, small
- Screwdriver, small

Disassembling

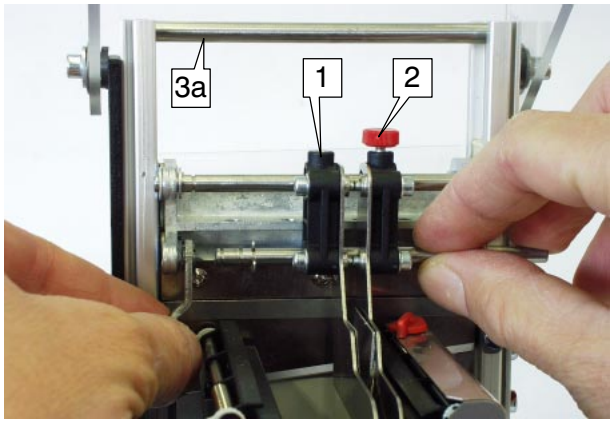
1. Remove the plexiglass cover of the stacker. To do so unscrew the two joint screws.
2. Unscrew the grub screw (1) on the left-hand pusher and the thumb screw (2) on the right-hand pusher. Push the left pusher a little to the right.
3. Remove the outer retaining ring of the lower pusher rod.
4. Push the pusher rod to the right out of the bracket. Remove the draw rod.

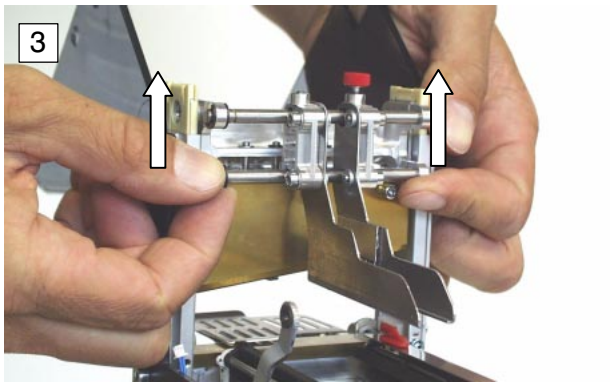
❍ For more detailed information about steps 1 to 4, refer to section Top draw rod bearing on page 13.

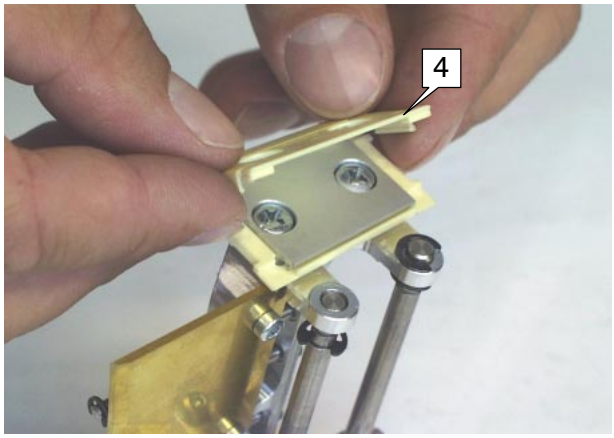
5. Remove the cross-strut (3a). To do this, unscrew the screws at both ends of the cross-strut.
6. Pull the cutter carriage upwards and out of the guide (3).
7. Remove (unclip) the guide plastic parts. To do this, first of all lift off the top part (4), then push the bottom part (5) to the rear out of the grooves of the aluminium plate and thread it around the plate.

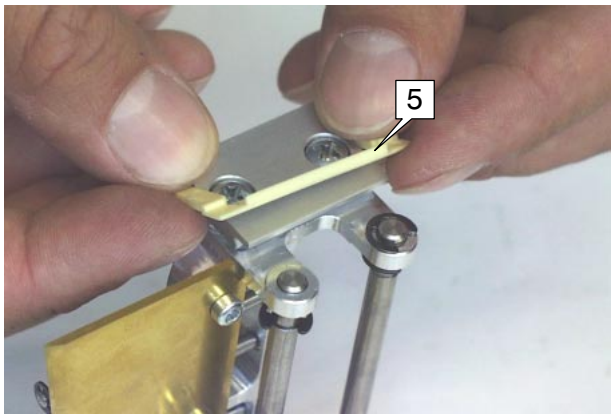
➠ Under no circumstances unscrew or remove the aluminium guide plate! The correct position can only be set in the factory.

❍ Continued on the next page.









Assembly

In reverse order.

- Ensure that the guide parts are positioned correctly!
- Press back the bottom cutter so that the cutters overlap again

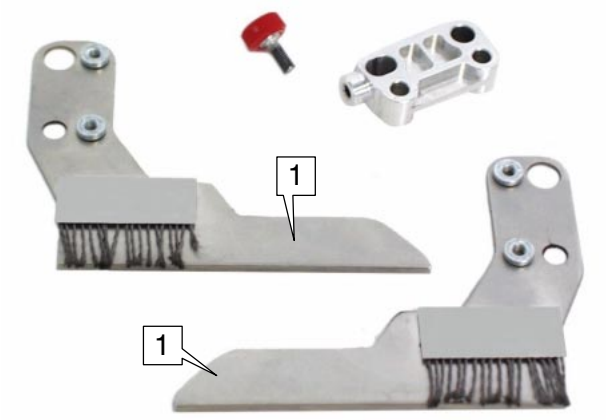
Pusher

Tools

– Allan keys, sizes 1.5 and 2.5

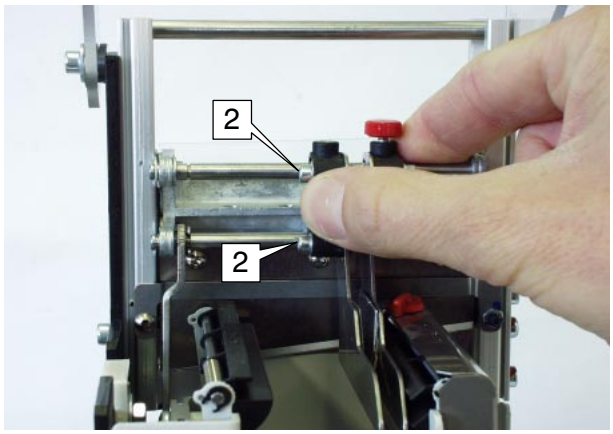
Disassembling

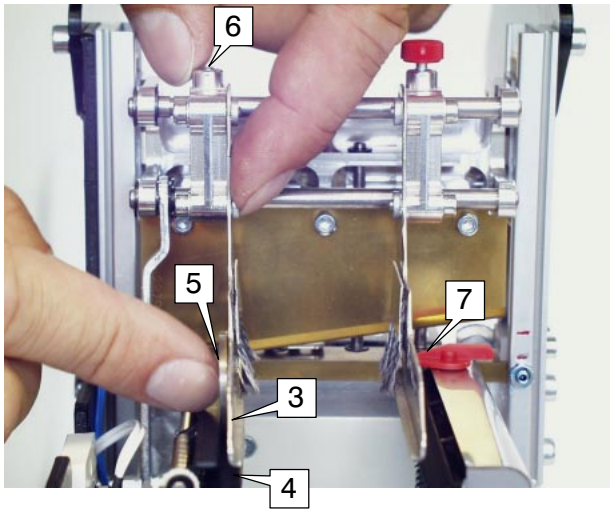
1. Open the plexiglass cover of the stacker.
2. Unscrew both pushers from their bases by unscrewing two screws (2) respectively.



Assembly

1. Loosely screw in the fastening screws (resp. two) of the two pushers.
2. Shift the cutter carriage until the lower edge of the pusher (3) lies completely on the balancer (4).
3. Tighten the screws.
4. Position the left pusher at a distance of 1.6 mm (coin thickness) (5) from the upper edge of the balancer. Tighten the grub screw (6).
5. Push the right-hand pusher up to the stop plate (7) on the guard on the right. The stop plate must stand at right angles to the pusher. Tighten the thumb screw.





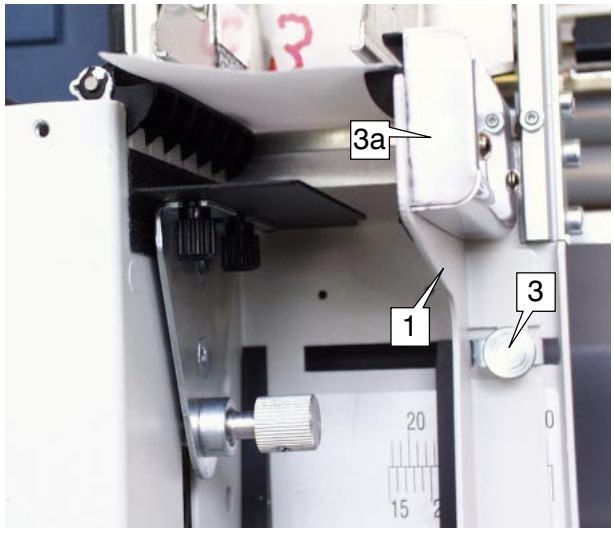
Right balancer

Disassembling/assembly

Removing the side part (1) eases access to the right balancer (2). Remove the two thumb screws (3).

1. Remove the guard (3a).
2. Remove the clamping ring (4) from the balancer rod.
3. Pull out the balancer rod (5).
4. Replace the balancer.

⇛ The torsion spring (6) must force the balancer back into its resting position (horizontal bearing surface).



Left balancer

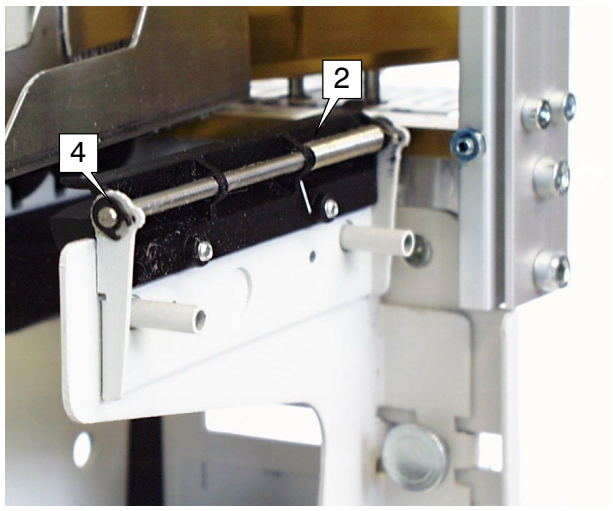
The balancer on the left is not as easily accessible as its opposite number. Removing the cutter carriage is recommended in order to access the rear clamping ring.

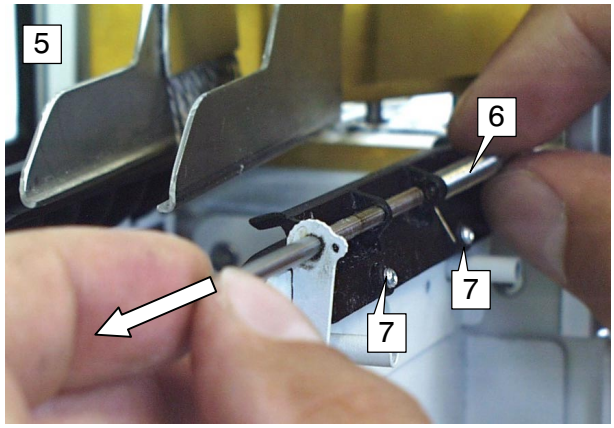
❍ Refer to section Carriage guide on page 19.

Disassembling/assembly

1. Remove the guard.
2. Remove the clamping ring from the balancer rod.

❍ Continue as detailed in Point 2/Right balancer.





Setting the balancers

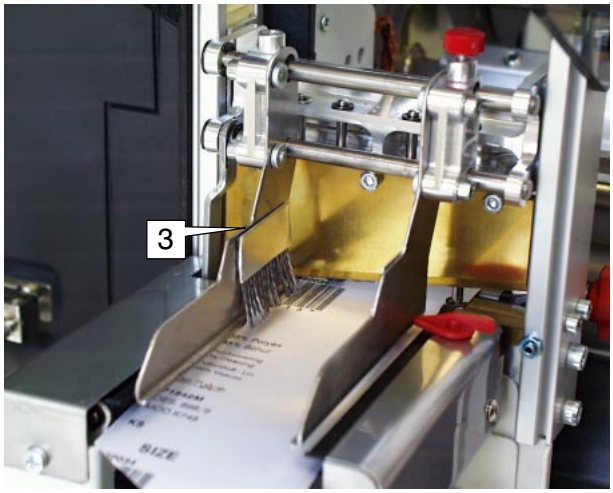
➔ The resting position of the balancer can be set using resp. two grub screws (7). To check the position, place a cheque or telephone card etc. on the bearing surfaces of the balancers. An aperture should not be visible when viewed from the front.

Anti-static brush/pusher

Disassembling/assembly

The anti-static brush has a strip of self-adhesive tape on one side.

➔ Mount the brush with the upper edge flush with the centre edge of the pusher (3).

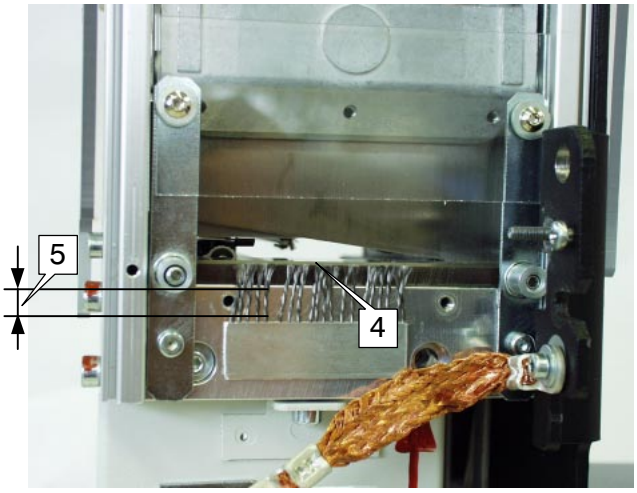


Anti-static brush/material guide

Disassembling/assembly

The anti-static brush has a strip of self-adhesive tape on one side.

➔ Mount the brush (4) at a distance of 4.5 mm (5) from the bottom edge of the aluminium part.



Microswitch

While the stacker is operating, the material support always slips further down the more labels in a stack. The support activates a microswitch at the bottom end of the stacking range, which stops the printer.

Assembly/Disassembling

The microswitch (1) can be replaced from the bottom of the stacker.

1. Unscrew the two slot screws (accessible from the outside (2)).
2. Detach the plug connector of the connector cable from the cable tree.

Tools

– Screwdriver, small

Photoelectric switch

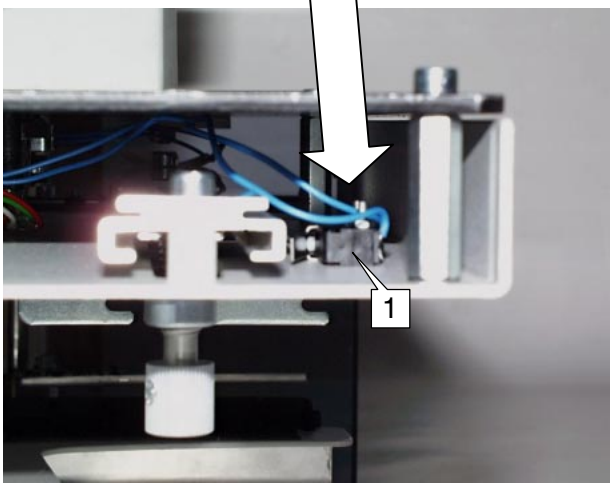
The photoelectric switch (3) is positioned somewhat below the motor in the stacker housing. It can be disassembled from the back of the stacker (4) without having to open the housing.

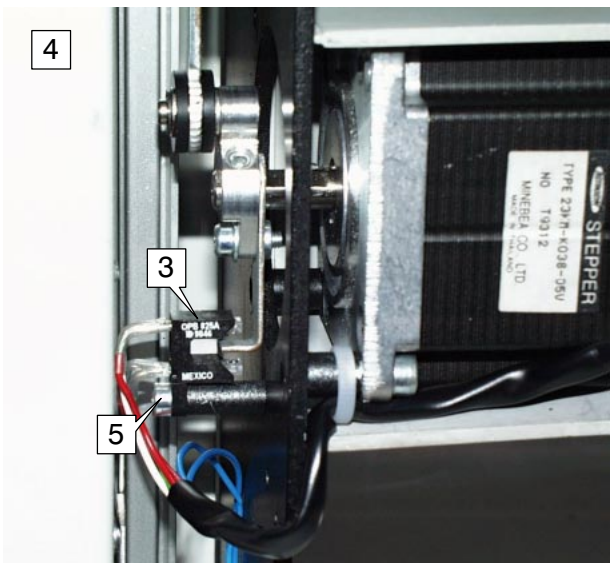
Assembly/Disassembling

1. Unscrew the Allan key fastening screw (5) through the recess in the housing.
2. Detach the plug connector of the connector cable from the cable tree.

Tools

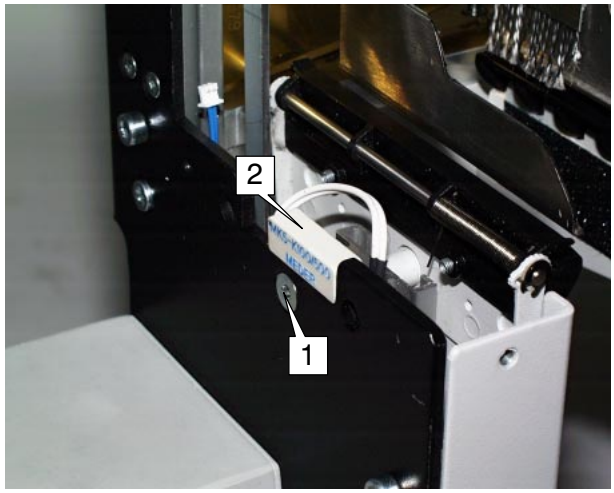
– Allen key size 3





Lid switch

The lid switch is positioned on the top edge of the stacker housing. A magnet mounted on the cover activates its contact if the cover is opened during operation.



Disassembling

1. Remove the left guard.
2. Unscrew the fastening screw (1) of the switch (2).
3. Detach the plug contact of the connector cable from the cable tree.

Assembly

1. Initially only loosely screw in the switch fastening screw (2).
2. Push the switch to the side. The stacker must stop when the cover is opened by approx. 4 mm.

Tools

- Allen key size 3

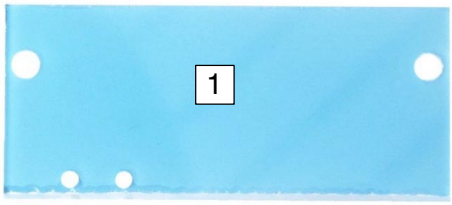
Retrofitting the type I material guide

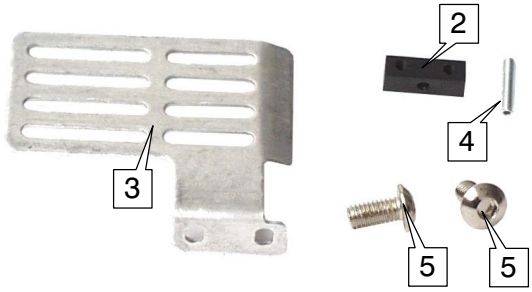
The modification kit replaces the retaining pins used in previous TCS versions.

❍ Refer to section Technical modifications on page 10.

The kit has the part number A1890 and encloses the following parts:

(1) Protective screen (Illustration with blue protection foil)
(2) Adjustment block
(3) Sliding plate
(4) Grub screw
(5) 2 round-head screws



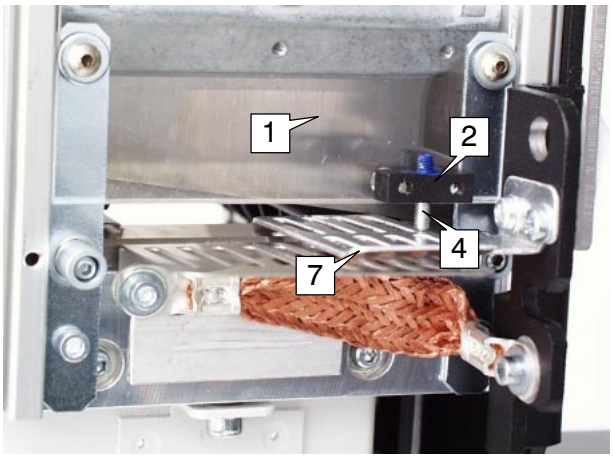


Tools

– Phillips screwdriver
– Allen key size 2

Disassembling

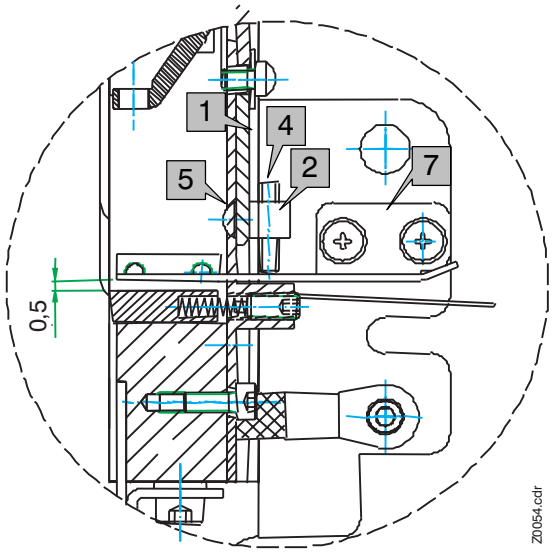
1. Remove the retaining pins. To do so remove the clamping rings and pull off the pins from their guides.
2. Attach the adjustment block to the protective screen, using the two round-head screws.



Assembly

➠ The screw heads showing in direction of the cutter!

3. Mount the protective screen.
4. Remove the sliding plate (7). Mount the new sliding plate so that the gap between sliding plate and bottom cutter measures 1.5 mm.
5. Turn in the grub scew (4) until the gap width is reduced to 0.5 mm. Lock the screw using medium firm locking varnish.



Technical specifications

Material width	Textile material	15 to 53 mm
	Self-adhesive material	20 to 53 mm
	Card material	25.4 to 53 mm
Label length	30 to 120 mm	
Max. stack height	150 mm	
Flag labels	adjustable	
Electrical data	Motor supply voltage	40 V
	Photoelectric switch voltage	5 V

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